

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-6 (canceled)

Claim 7 (currently amended): A method for synthesizing ~~converting a substrate of α 2,8/2,9 polysialyltransferase into a polysialic acid product having alternating α 2,9- and α 2,8 linkages of sialic acid~~, said method comprising ~~step of the following steps:~~

Step A: contacting the substrate a sialic acid acceptor and a CMP-sialic acid donor with α 2,8/2,9 polysialyltransferase from *Escherichia coli* K92 under cell-free conditions for promoting enzymic catalysis of a conversion of the substrate into the product for sequentially sialylating the sialic acid acceptor with the CMP-sialic acid donor for releasing CMP and forming the polysialic acid product; and

Step B: removing the released CMP with alkaline phosphatase.

Claim 8 (currently amended): A method according to claim 7 wherein ~~the α 2,8/2,9 polysialyltransferase is from *escherichia coli* K92~~ the sialic acid acceptor is selected from the group consisting of sialic acid, an oligomer of sialic acid, and a ganglioside.

Claim 9 (new): A method according to claim 9 wherein the sialic acid acceptor is selected from the group consisting of sialic acid, a dimer or trimer of sialic acid, 9-O-acetyl sialic acid, GD₃, GM₃, GD₂, GT_{1a}, GT_{1b}, GQ_{1b}, and a ganglioside mixture.